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# The Determinative Factors of Deposits Behavior in Banking System in Albania (Jan 2005 – Dec 2014)

**Msc. Altin Turhani**

*Branch Manager, BKT, Elbasani Branch Lecturer in Financial & Banking Faculty of Economy, "Aleksander Xhuvani" University*
*Adress: BKT, L"29 Nentori", Rr "11 Nentori", 3001 Elbasan, Albania*
*Email: aturhani@bkt.com.al*

**Docent Dr. Hysen Hoda**

*Lecturer in Financial & Accounting Faculty of Business , "Aleksander Moisiui" University*
*Adress: RR M,Shyri Pall 7 Shk 3 Apa 21 Tirana, Albania*
*Email: hhodaj@yahoo.com*

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***Abstract***

*In recent years, the financial crisis has had a global impact, affecting the performance of financial and bank indicators. However, the extent of its impact in different countries is not similar, because of the characteristics of the banking system structure and the economic situation. This paper aims to assess the impact of macroeconomic and specific banking variables in the deposits' behavior, in the Albanian Banking System during period January 2005 - December 2014. In the theoretical aspect, a research model has been set up, based on the leading theories identified in the literature. The aim of the research was to build a model to assess how the deposits' behavior will change in relation with risk decisions from bank management. The model includes macroeconomic and specific banking factors. Also, the effect of the impact of the crisis will be evaluated by a dichotomous variable, which aims to assess the performance of level of deposits during the crisis period (March 2008 - June 2009). In empirical terms, the study focused on understanding the impact of each factor on the decision making of the depositors. The decision making of the depositors will be expressed with the progress of total deposits, because a quantitative model was identified to analyze the data. Using quarterly data, the results of the study estimate that the deterioration of several indicators of banking or macroeconomic performance, has affected the level of deposits. Also, two most important factors that affect the level of total deposits are: the level of bank liquidity and the interest rates on deposits in foreign currency. Also, another important result is that the performance of deposits is estimated to be improved during the time of crises compared to normal period; suggesting that the effects of the crisis are shown months later in Albania banking sector. In conclusion, analyzing the level of total deposits is very important, because they are one of the main sources of funding for the banks. So, understanding the relationship bank-customer is also important in building policies in managing the effects of crisis periods. The results recommend that bank should educate depositors in understanding bank products.*

***Keywords:*** *Deposits' behavior, Depositors' decision making, Total Deposits, Banking System, Banking Crisis*

## 1. Introduction

Developed and developing countries have experienced many challenges in terms of risk management, which are associated with high costs for the economy and the banking system. Banking crises are considered as one of the most important financial events in recent decades. Such a situation could affect the financial stability and promote the deterioration of the banking indicators; because banks hold a small amount of cash deposits and in case of unexpected deposits withdraws will be affected their liquidity. Moreover, a bank panic can affect the entire banking system, prompting the emergence of a financial crisis.

Financial crisis of year 2007, which was started in America, led to the failure of several banks internationally, such as: Northern Rock in September 2007, Lehman Brothers in September 2008, etc. In late 2008, the negative situation spread the banking system in Europe and Asia, affecting more in some countries, such as: Iceland, Ireland, Spain, Greece, etc. Initially, the situation created was characterized by the loss of depositors' confidence and increase the liquidity problems in the interbank market. In addition, the situation was characterized by restructuring deficit and decline in the solvency of banks. However, the degree of impact was not similar in different countries, influenced by the degree of banks' exposure to the global system, or even relevant policies in that period.

The decision making of financial agents and the lack of effectiveness on bank policies has contributed to the stability of the financial system (Berger, 1991). In this way, the governments of the respective countries, in cooperation with central banks, developed a set of policies to prevent negative impacts. Provision of financial and banking stability

has been a priority of the relevant authorities in creating policies. Measures taken were in order to improve the financial problems, resulting in increased liquidity for banks and providing information to influence the decision making of key agents.

The theoretical part of the paper is written based on two main purposes. Initially, studies of banking crises have proposed a number of hypotheses to explain the decision making of depositors and the failure of a bank. In this way, their summary will help to identify the key factors to understand the relationship bank-depositor. Secondly, this section will identify information related to the policies for financial regulation and supervision. Thus, identification of policies will help in assessing their effectiveness and suggestions for policy in the future.

In the case of a banking crisis due to the poor financial indicators (Kindleberger, 1978), then followed policies will be aimed at improving financial regulation and supervision of banking system. Otherwise, when the panic is caused by the decision making of depositors (Diamond and Dybvig, 1983), it is necessary to pursue policies that are more transparent and provide more detailed information. The totality of these policies will influence risk management in the banking system, as well as avoiding a potential panic situation.

Meanwhile, the empirical part of the paper focuses on understanding the impact of each factor on the deposits changes. The deposits' behavior will be identified with the changes of deposits' level, because the choice of a quantitative approach in analyzing variables. The study concluded that two of the important factors that affect the level of deposits are: the level of bank liquidity and the interest rate on deposits in foreign currency. Also, an important result is that the level of deposits in crisis time has been increased, compared with the level of deposits in normal times; suggesting that the effects of the crisis were delayed in the banking system in Albania.

In conclusion, the study of the deposits' level is important in the banking system, knowing that they constitute a important source of funding for the banks. Understanding the relationship bank-customer (depositor) is also important in building policies to manage the effects of crisis periods in banking system. However, financial crises will continue to occur in the future, influenced by the efficiency of the financial markets, which are in constant development, as well as the implementation of the relevant regulations.

## 2. Research Problem

The banking system in Central European countries is characterized by foreign-owned bank. In this way, the crisis situation in developing countries, which has emerged in developed countries led to the decline of the financial stability of the banking system due to the effects imported from abroad. Such a situation is important, as it has affected a substantial part of the developing countries and the situation of such magnitude was submitted only in case of political system change. So, the study of the banking system will help in identifying the characteristics of their development.

A panic situation affects the decision making of depositors and their faith. These developments have contributed to the establishment of a debate in the literature on identifying the underlying causes of the financial crisis. However, the problem starts when a large number of depositors seek to withdraw their funds and the question of how many of them consisting change behavior based on the feedback of others.

One such question has influenced the development of the two main economic models, which are intended to explain the process of a banking crisis. One view emphasizes the importance of banking factors in creating a unstable situation. Deterioration of banking factors will affect the bank's financial results, increasing the liquidity risk; in this way the depositors will be aimed at attracting their funds before banks can fail (Allen and Gale, 200).

The other view considers that the financial panic is caused by beliefs of agents, self-fulfilling in their nature. In this way, if many depositors are trying to withdraw their funds in a short time, then the bank will face problems in its ability to pay off debts. Thus, a depositor will be in a dilemma whether to be in line to withdraw deposits because the others are doing the same thing. This means that a depositor can be found in panic if based on the behavior of others, regardless of their interest. One such case is presented in economic literature by Diamond and Dybvig (1983).

Literature search on key models will help assess questions or main purpose of this paper. The basic question raised is: who are the main factors affecting the performance of deposits' behavior over the years? Deposits' behavior is a variable that will be evaluated by the change level of deposits over the years. Increase or decrease in the level of deposits will reflect the position of depositors to the performance of financial indicators in the banking sector. Meanwhile, the main factors will be separated into macroeconomic factors and bank specific factors, to assess whether it is the mismanagement of the bank that affects the level of deposits or their performance is influenced by the economic situation facing the country in a given period of time.

## 3. Review of the Literature

Banks play an important role in the development of the financial market for a country. However, to function normally, they must be safe and be perceived like that. In this way, the importance of depositor-bank relationship, will also affect the stability of the banking system (Iyer and Puri, 2012; Martinez Peria and Schmukler, 2001; etc.).

Various studies in the literature to assess the importance of various factors to explain the problem of financial stability, such as: deposit insurance system (Iyer, Puri and Ryan, 2013; Demirguç-Kunt and Huizinga, 2004; etc.); life expectancy account in a bank (Iyer and Puri, 2012); negative information on the financial performance indicators (Aliber and Kindleberger, 2011; Allen and Gale, 2000); performance of macroeconomic factors (Lelvy - Yeyati et al., 2004; Oliveira et al., 2011; etc.); etc. As a consequently, the study of bank-depositor relationship takes a special importance, affecting the promotion or slowing the effects generated by a crisis situation (Kindleberger, 1978).

Information obtained from the market or certain signals in the market will affect the assessment of a bank in an earlier time (Flannery, 1998). Depositors may be able to react in a timely manner to ensure their resources. Such behavior can be viewed as a regulator of the financial system, which is influenced by the depositors, contributing to reduce the costs of banks' supervision, as well as the reduction of systemic risk that may involve this market.

In the literature are analyzed the main theories to explain a bank panic, based on the decision making of depositors. Identification of key factors influencing the emergence of a crisis situation takes a special importance, helping to identify appropriate policy (Demirguç-Kunt and Detragiache, 2011). In this way, as a result of global developments, crisis handling matters in the banking sector's stability in a country; but also in relation to the global financial establishing relations.

Theoretical literature on banking panic is divided into two directions. On the one hand are identified those studies that estimate that panic can occur as a domino effect (Friedman and Schwartz, 1963; Diamond and Dybvig, 1983) - if a bank involved in a panic situation, then other banks will be affected. In the second view, bank panic is considered as an event caused by the perception of depositors, created by incomplete information about the bank's financial indicators. Because they operate with incomplete information, they are unsure about future economic developments, aiming withdrawal of all deposits (Kindleberger, 1978).

## 4. Methodology

The study is divided into chapters, which deal with certain aspects related to the assessment of key factors influencing the performance level of deposits in the banking system in the period 2005-2014. In this paper, the analysis is focused on the level of total deposits. First, the analysis of the performance of banks in deposits will focus on their descriptive analysis. Such analysis will help in understanding the decision making of depositors; where the growth of bank deposits will be a reflection of its rating, while the decrease in deposits will be a reflection of the punishment risk management decisions.

Second, to assess the effect of each variable on the performance level of the deposit, will be built an econometric model. Identified data are based on time series, to evaluate the deposit series of indicators during the study. They are presented in the form of quarterly from year 2005 to 2014. Meanwhile, the choice of the model is based on the adaptation of the empirical results identified in the literature. Initially, the model will be tested statistically (through the statistical program SPSS 20.0) to assess whether the data obtained can be used to understand statistically the level of deposits.

In addition, the linear regression method will be used to assess the degree of impact and corresponding sign for each of the factors taken into study. Meanwhile, the effect of the impact of the crisis will be tested including a dichotomous variable in the model, which aims to assess the performance of deposits during the crisis compared with deposits in the period called as normal. The result will help in understanding the impact of financial crisis on the decision making of depositors in the banking system.

In this way, the model used in this study will focus on three independent variables: 1) bank-specific factors; 2) macroeconomic factors; and 3) controlling factors. The model of study is based on the suggestions of the papers: Barajas and Steiner (2000); Park and Peristiani (1998); Martinez-Peria and Schukler (2001).

So, study the performance model of the deposit will be such:

Y = f (macroeconomic factors, bank-specific factors, control variables).

or

$$\mathbf{Y_{i,t}} = \alpha_i + \beta \mathbf{X_{i,t}} + \mu_{i,t}$$

Where:

**i** - The number of banks throughout the study period **t** (2005-2014);

$\mathbf{Y_{i,t}}$- The level of deposits in the banking system during the period **t**;

$\mathbf{X_{i,t}}$ - The performance of independent variables in period **t.**

The figure below present the key variables identified from the literature review:

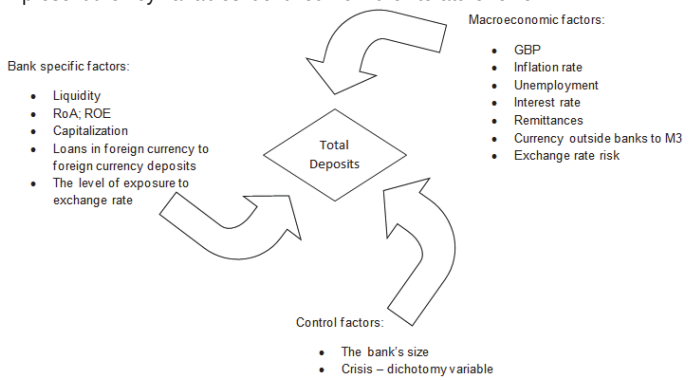



**Figure 1:** Model of the study

*4.1 Presentation of the hypothesis*

This study is based on the establishment of several key assumptions which are expected to be confirmed by linear regression model. Meanwhile, the null hypothesis (H0) will be of the form: any of macroeconomic and bank specific variables identified will not affect the performance of deposits in different periods of time. While the alternative hypothesis (Ha) will be: at least one variable will affect the performance of the deposits in the period identified.

In this way, the main hypothesis of the study identified, in function of providing answers to the questions raised on the subject of study, are presented below:

**Table 1:** Presentation of the hypothesis

| | |
|---|---|
| The first hypothesis | ➢ H0: GDP growth has no impact on the level of deposits;<br>➢ H1: GDP growth has an impact on the level of deposits; |
| The second hypothesis | ➢ H0: the inflation rate has no effect on the level of deposits;<br>➢ H1: The rate of inflation has an impact on the level of deposits; |
| The third hypothesis | ➢ H0: The unemployment rate has no effect on the level of deposits:<br>➢ H1: The unemployment rate has an impact on the level of deposits; |
| The fourth hypothesis | ➢ H0: The interest rate has no effect on the level of deposits;<br>➢ H1: The interest rates has an impact on the level of deposits; |
| The fifth hypothesis | ➢ H0: The level of remittances has no impact on the progress of the deposit;<br>➢ H1: The level of remittances has an impact on the deposit; |
| The sixth hypothesis | ➢ H0: money outside banks level has no impact on the level of deposits;<br>➢ H1: The level of cash outside banks has an impact on the level of deposits; |
| The seventh hypothesis | ➢ H0: Exchange rate (EUR / ALL or USD / ALL) has no impact on the level of deposits;<br>➢ H1: Exchange rate (EUR / ALL or USD / ALL) has an impact on the level of deposits; |
| The eight hypothesis | ➢ H0: liquidity level has no impact on the level of deposits;<br>➢ H1: The level of liquidity has an impact on the level of deposits; |
| The nine hypothesis | ➢ H0: The level of profitability (RoA and RoE) has no impact on the level of deposits;<br>➢ H1: The level of profitability (RoA and RoE) has an impact on the level of deposits; |
| The tenth hypothesis | ➢ H0: The level of capitalization has no impact on the level of deposits;<br>➢ H1: The level of capitalization has an impact on the level of deposits; |
| The eleven hypothesis | ➢ H0: The level of problem loans has no impact on the level of deposits;<br>➢ H1: The level of problem loans has an impact on the level of deposits; |
| The twelve hypothesis | ➢ H0: The level of exposure to exchange rate has no effect on the level of deposits;<br>➢ H1: The level of exposure to exchange rate has an impact on the level of deposits; |
| The thirteen hypothesis | ➢ H0: bank size has no effect on the level of deposits;<br>➢ H1: bank size has an impact on the level of deposits; |
| The fourteen hypothesis | ➢ H0: A period of macroeconomic crisis has no impact on the level of deposits;<br>➢ H1: A period of macroeconomic crisis has an impact on the level of deposits. |

## 5. Data Analysis

In this part of the paper will assess the impact of relevant variables identified in the level of deposits, using SPSS 20.0 statistical program. Initially, it will be presented descriptive data for key variables, to have an idea about their performance in the period under review.

The following will discuss the stages of data preparation for statistical analysis, preparing them for testing by the relevant tests: the test of autocorrelation and multicollinearity. At the end of this section will appear relevant linear equation, as well as the final tables that identify which of the hypotheses are accepted.

### *5.1 Descriptive Analysis*

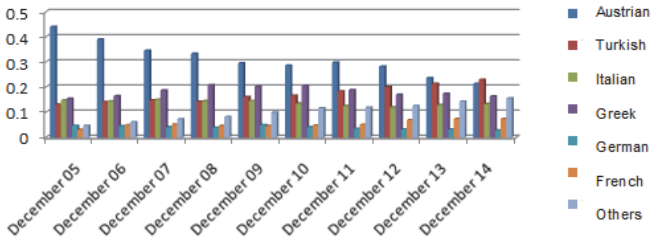
Developments in global financial markets in 2008 have affected the stability of the banking system in many different countries. Such a situation led to the identification of a range of policies arising from past experience in the global crisis. Some of these policies are related to the rate of required reserves, capital adequacy ratio, deposit insurance up to a certain rate etc. Also, a valuable policy has been the licensing of foreign-owned banks by the relevant licensing authority. In this way, the entry of banks with experience is expected to increase financial stability in the country.

Banking developments were also felt in the Albanian banking system, prompting the need for appropriate measures. Thus, the Bank of Albania, as the central bank, called for implementation of a series of policies aimed at normalizing the situation. Policies related to control activities of each bank and short-term financing at lower costs and to avoid the problem of liquidity. Other policies related to changes in interest rates on borrowing for banks, or change the required reserve ratio.

Identified policies contributed to the financial management of the situation in the country, contributing to the maintenance of stability. Thus, some of the most important policies of Central Bank are:

- In 2005 prepares the law "On banks in the Republic of Albania";
- In 2007 it enabled the functioning of Credit Registry;
- In 2008 it held a series of seminars entitled "Central Bank in everyday life" in order to inform economic agents;
- In 2009 changed the deposit insurance scheme, up to 2.500.000 value for individuals;
- In 2010 the base interest rate reached 5.0% in value;
- In 2012, some procedures were reviewed with aim to adapt them to the standards of the Basel Committee; etc.

Meanwhile, an important issue related to the performance of banks deposits in the Albanian banking system. In this paper, the performance analysis of deposits by banks is based on analyzing the performance of the deposits volume by capital origin. The graphic below shows the trend of deposits by capital origin.




**Graph 1:** Performance of deposit growth level according to the origin of the capital of banks in the period 2005-2014. **Source:** Bank of Albania (2005-2014).

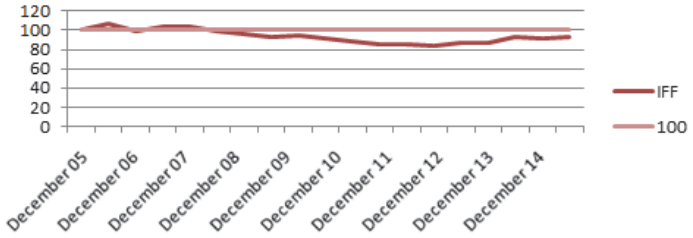
This graphic presents the general performance level of deposits in the banking system, helping to assess the change of the deposits level. Thus, it is noted that in the years 2009-2013 performance level of deposits in banks with Greek (20% decrease) and Italian (3.1% decrease) capital origin have decreased, evaluating the reduction of their trust as a result of financial developments in the countries of origin. However, performance is not entirely clear, as a result of asymmetric information in an emerging market.

Deposit concentration index was about 0.14 in year 2014 (Herfindahl index), being rated as a moderately concentrated market. Meanwhile, it is worth noting that the largest share of deposits in 2014 was held by BKT bank

(23%), compared with Raiffeisen bank (22%). In 2009, the ownership structure of deposits was different, which was held about 30% by Raiffeisen bank and 16% for the BKT bank.

In this way, developments in global markets have affected the level of depositor confidence, and increased costs for banks (Kota and Saqe, 2013). In response to such changes, banks have undertaken a series of measures to manage the relevant risks, affecting the growth of information on banking products, adapting the suggestions of the Bank of Albania on liquidity, increasing surveillance in the process of granting loans etc.

An important index is the index of financial strength (IFF), which represents an average of the main risks (credit risk, liquidity risk, foreign exchange risk and equity risk) expressed in 100 units. After 2008 it is estimated that the value of the index is shown in steady decline, reaching the lowest point in 2012 to 87.27 value unit (Bank of Albania, 2013).




**Graph 2:** The performance of financial strength in the years 2005-2014. Source: Bank of Albania (2014).

Meanwhile, in the following table are presented statistics for the variables descriptive study. The data include all periods and all banks for the period under study.

**Table 2:** Descriptive statistics of the variables

| | Average | Minimum | Maximum |
|---|---|---|---|
| 1. Total deposits | 7.382E+11 | 3.953E+11 | 1.064E+12 |
| 2. Liquidity | 3.275E+11 | 2.45E+11 | 4.132E+11 |
| 3. RoA | 0.7935 | -0.14 | 1.58 |
| 4. RoE | 11.0750 | -2.00 | 25.00 |
| 5. Capitalization | 17.10 | 15.00 | 21.00 |
| 6. NPL rate | 12.40 | 2.00 | 25.00 |
| 7. Currency outside banks to M3 | 20.635 | 16.60 | 26.10 |
| 8. Loans in foreign currency to foreign currency deposits | 65.89 | 47.40 | 84.30 |
| 9. The size of banks | 9.07E+11 | 4.55E+11 | 1.29E+12 |
| 10. GDP | 1.1173E+12 | 7.67E+11 | 1.40E+12 |
| 11. Inflation | 2.5925 | 1.10 | 4.40 |
| 12. Unemployment | 14.15 | 12.62 | 18.10 |
| 13. Total ermittances | 2.398E+10 | 2.381E+9 | 3.213E+10 |
| 14. Repo-Lek | 0.338 | -1.50 | 1.50 |
| 15. Euribor-Euro | -0.075 | -1.8 | 1.72 |
| 16. Libor - USD | 0.354 | -1.1 | 2.65 |
| 17. Exchange rate eur/lek | 132.5392 | 121.78 | 141.41 |
| 18. Exchange rate usd/lek | 99.28 | 77.17 | 115.23 |

*5.2 The statistical analysis*

An important issue in analyzing the role of the bank is focused on changing the level of deposits as a decision making of depositors against a bank (bank's decisions, which are reflected in banking indicators). Various studies have identified different methodologies to verify whether the change in the level of deposits may reflect changes in the financial market. However, the choice of the appropriate method will be based on the relevant characteristics of the banking system and the possibility of obtaining the necessary information for a fair assessment.

Numerous studies have been conducted in developing countries, praising the role of financial stability in the

economic development of those countries (Demirgüç-Kunt and Huizinga, 2004; Martinez Peria and Schmukler, 2001; etc.). Many studies in European countries have used as a methodology based on quantity, for example, Maechler and Birchler (2001); Karas et al. (2005); etc.

Identified data are processed by the statistical program SPSS 20.0. Initially, the relevant tests have been developed for evaluation of variables and construction of the final model of linear equation. Relevant tests identified are: the test of autocorrelation and multicollinearity test.

Respective values of autocorrelation test estimate that it is not fully present and allows advancing in next phases of data analysis. Meanwhile, multicolinearity test serves to evaluate the linear relationship between the variables. Two tests are estimated to Pearson correlation test and Variance Inflation Factor (VIF). A suitable method is to perform a VIF test, to assess the results generated on the connection variables. If the index value is greater than 10, it is estimated that variable has a high colinearity, suggesting his departure from the model.

Initially the relevant test is performed for the 16th variables, resulting in a table on which there are several variables on the VIF value greater than 10. After removal of four variables (size of banks, performance of GDP, NPL and RoA) was concluded on 12 key variables, which than will be tested in linear regression model.

**Table 3:** Multicolinearity test results on independent variables.

| Model | Collinearity Statistics | |
|---|---|---|
| | Tolerance | VIF |
| (Constant) | | |
| log_liquidity | .492 | 2.031 |
| RoE | .124 | 8.062 |
| Capitalization | .104 | 9.639 |
| Currency outside banks to M3 | .151 | 6.602 |
| Loan in foreign currency to foreign currency deposits | .147 | 6.790 |
| Inflation | .321 | 3.117 |
| Unemployment | .211 | 4.737 |
| Log_Remittances | .151 | 6.613 |
| Repo_lekë | .342 | 2.920 |
| Euribor_Euro | .171 | 5.849 |
| Libor_usd | .155 | 6.454 |
| Crisis | .411 | 2.432 |

Thus, the final econometric model identified to evaluate the level of deposits is:

$$\mathbf{Deposits}_{i,t} = \mathbf{Const}_{i,t} + \beta_1\ \mathbf{Liq}_{i,t} + \beta_2\ \mathbf{RoaE}_{i,t} + \beta_3\ \mathbf{Cap}_{i,t} + \beta_4\ \mathbf{currency\ outside/M3}_{i,t} + \beta_5\ \mathbf{LF/DF}_{i,t} + \beta_6\ \mathbf{INF}_{i,t} + \beta_7\ \mathbf{Unemployment}_{i,t} + \beta_8\ \mathbf{Remittances}_{i,t} + \beta_9\ \mathbf{Repo\_Leke}_{i,t} + \beta_{10}\ \mathbf{Euribor\_Euro}_{i,t} + \beta_{11}\ \mathbf{Libor\_Usd}_{i,t} + \beta_{12}\ \mathbf{Crisis}_{i,t} + \mu_{i,t} \quad (1)$$

The following will appear statistical tables of results in total deposits. It is noted that the variables involved in the study may explain about 98.2% of deposits in the course of 2005-2014. Also, Anova test evaluates whether the model is statistically significant. Fisher's F value is 125.144, more than 2,047 critical F, estimating that the model is statistically significant. In this way it may be argued that the results obtained for 12 variables can give explanation to explain statistically significant variable in the total deposits.

**Table 4:** ANOVA statistical test.

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .991[a] | .982 | .974 | .02134 | 1.867 |

a. Predictors: (Constant), Crisis, Capitalization, log_liquidity, Remittances, Inflation, Repo_leke, Currency outside banks to M3, Unemployment, Euribor_Euro, Libor_usd, Loans in foreign currency to foreign currency deposits, RoE
b. Dependent Variable: log deposits

**Anova**[a]

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | .684 | 12 | .057 | 125.144 | .000[b] |
| Residual | .012 | 27 | .000 | | |
| Total | .696 | 39 | | | |

a. Dependent Variable: log deposits
b. Predictors: (Constant), Crisis, Capitalization, log_liquidity, Remittances, Inflation, Repo_leke, Currency outside banks to M3, Unemployment, Euribor_Euro, Libor_usd, Loans in foreign currency to foreign currency deposits, RoE.

So the final equation econometric explanation of the performance of total deposits level is:

$$\mathbf{Depozita_{i,t} = 11.315_{i,t} + 0.071_1\ Liq_{i,t} + 0.001_2\ RoAE_{i,t} - 0.028_3\ Cap_{i,t} - 0.02_4\ Currency\ outside/M3_{i,t} + 0.002_5\ LF/DF_{i,t} - 0.019_6\ INF_{i,t} + 0.021_7\ Unemployment_{i,t} - 0.016_8\ Remittances_{i,t} + 0.006_9\ Repo\_Leke_{i,t} - 0.017_{10}\ Euribor\_Euro_{i,t} - 0.012_{11}\ Libor\_Usd_{i,t} + 0.14_{12}\ Crisis_{i,t}} \quad (2)$$

Meanwhile, in the following table are presented in summary which of the hypotheses raised in the case confirmed the level of total deposits.

**Table 5:** Summary of the study hypotheses for variable total deposits.

| Hypothesis | Decision* | Impact |
|---|---|---|
| 1. GDP growth has an impact on the level of deposits | Not accepted | |
| 2. The inflation rate has an impact on the level of deposits | Accepted | Negative |
| 3. The unemployment rate has an impact on the level of deposits | Accepted | Pozitive |
| 4. The interest rates has an impact on the level of deposits | partially accepted ** | Negative |
| 5. Remittances have an impact on deposit | Not accepted | |
| 6. The level of cash outside banks has an impact on the level of deposits | Accepted | Negative |
| 7. Exchange rate (EUR / ALL or USD / ALL) has an impact on the level of deposits | Not accepeted | |
| 8. The level of liquidity has an impact on the level of deposits | Accepted | Pozitive |
| 9. The level of profitability (RoA and RoE) has an impact on the level of deposits | Not accepted | |
| 10. The level of capitalization has an impact on the level of deposits | Accepted | Negative |
| 11. The level of loans with problem has an impact on the level of deposits | Not accepted | |
| 12. The level of exposure to exchange rate has an impact on the level of deposits | Accepted | Pozitive |
| 13. The size of the bank has an impact on the level of deposits | Not accepted | |
| 14. A period of macroeconomic crisis has an impact on the level of deposits | Accepted | Pozitive |

* Hypothesis is accepted if the value of p is less than 0.05, for each variable.
** The difference is confirmed only for Euribor-Euro exchange

## 6. Discussion of Results

In this paper it was discussed on the econometric model in order to analyze the deposits' behavior in the banking system in the period 2005-2014. In this way, the model is built based on the treatment of changes in deposits over quantity approach. Under this treatment, increasing the risk undertaken by banks will encourage depositors to withdraw funds from the respective bank. In other words, the reaction of depositors to the worsening financial indicators or to macroeconomic changes will be seen in their behavior to withdraw deposits. Thus, a response form will be investing deposits in other financial instruments, as a result of lowering the rate of return on deposits.

However, the assessment of deposits' behavior in developing countries is difficult. Characteristics of banking market in these countries (such as lack of information, the difficulty of identifying them, the later time of their publication, not tighter rules etc.) can influence decision making of the depositors, so impacting the level of deposits. Decisions taken by the depositor does not fully reflect changes in the level of risk accepted by banks. Therefore, the meaning of some ambiguous results in the econometric model can be justified on the characteristics of the banking system in these countries (Vives, 2006).

Macroeconomic performance and specific factors have influenced the decision making of depositors in this period of study. It is noted that the macroeconomic factors were similar in all periods, promoting the idea that the effect of the crisis in our country is appeared in later periods, compared with the year when the crisis started. Such situation means

the decision making of depositors has been driven more by bank specific factors to the selection. In other words, macroeconomic factors have affected the level of deposits in the country, while specific bank factors have affected their deposits level orientation.

Meanwhile, research variables can explain about 98.2% of the performance of the total deposits in Albania banking system. Meanwhile, variables: remittances, RoE, Repo rate and Libor- Lek interest rate, cannot explain the level of deposits because do not fulfill the condition of the linear regression model that P value should be less than 0.05. These variables are removed from the final econometric model to explain the performance level of total deposits (see the econometric model (2)). So, though they are considered acceptable in the study, to explain the change of deposits, using indirect influence on the behavior of other factors, they cannot be included in the final econometric model because of failure to meet statistical requirements.

An important factor was the level of liquidity in the banking system, which resulted in the high level of liquidity affecting the reliability of depositors in the banking system. Liquidity rate is seen as a guarantee of depositors to preserve their deposits from the banking system negative trends. Based on the results of the performance of liquid assets to total assets, it may be argued that the level of liquidity has increased during the crisis period and then continued dropping to adapt the country's economic performance.

Meanwhile, an ambiguous result was unemployment indicator variable. Respective signs were positive, considering the rise in unemployment (between rates of assessed during this period) had a positive impact on the growth of deposits. Such a result is contrary to the results identified in the literature. However, an explanation will be linked with the level of remittances in the country. Understanding the behavior of remittances, one can estimate that the respective families invest a portion of remittances in savings deposits; while the rest for consumption. Most of the remittances level goes outside the banking system, rather than in deposits (Bank of Albania, 2008). Econometric equation that explains the performance of total deposits is the equation (2).

## 7. Conclusions

In this paper are discussed the main theories that explain the financial crises, focusing on the performance level of deposits. Research suggests that panic is not a random situation, and they cannot be fully predicted. In this way, it is important to assess the impact of different policies at different times. This can help to draw detailed results for managing different situations in the future.

History of banking crisis has affected in understanding the banks and the terms of the relevant problems. Thus, historical results may also provide relevant suggestions on the policies undertaken and their effectiveness. However, results generated cannot serve as the most suitable suggestions, because the financial market is constantly evolving, influenced by the performance of technological development. So, identified rules are not always available in different periods (Calomiris and Gorton, 1991).

Meanwhile, compliance policies commercial banks with the central bank have shown a relationship which has reduced the negative performance in periods of crisis. Thus, the Central Bank can play an important role in the withdrawal of surplus money from the market are deposited in commercial banks. Also, the level of deposit insurance can serve as an incentive depositors' behavior. However, for developing countries it has been proved empirically that all depositors will react in a crisis situation due to lack of complete information (Demirgüç-Kunt, Karacaovali, and Laeven, 2005; Flannery, 1998). So it can be said the Central Bank;s interventions are important in the performance of financial stability in a country.

So, based on the results identified on the performance level of deposits in the banking system during years 2005 - 2014, some conclusions are:

- The banking system is stable in this period, identifying the most of the banks are foreign-owned. The presence of foreign management has improved the development of the banking system, based on their experience.
- Quantitative indicators identified improving the level of deposits in the banking system. Individuals have a higher level of confidence in the banking system, by entrusting their savings. Also, improving the level of technology has affected their behavior toward banking system. Increased transparency of information or bank cover activities, increasing the coverage of banking services through bank branches or ATMs, etc., has affected the ability of banks to absorb significant amounts of money in circulation.
- Policies developed by commercial banks have affected their performance in the banking system. Thus, at the end of 2014 it is estimated that the largest share of deposits is held by the Banka Kombetare Tregtare (BKT);

a position that was held by Raiffeisen Bank since 2005

- Central Bank's role in ensuring financial stability has been important. It has contributed to controlling the behavior of commercial banks, as well as adapting to the directives of the international institutions in banking suggestions for specific indicators.
- An important aspect is that the level of deposits in the banking system has been steadily increasing, having small fluctuations mainly after 2009. Such behavior is considered a positive development of the financial sector. So, the results of the global crisis are expressed in subsequent periods than they really happened, allowing banks to manage the situation.

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## Appendix A

**Table 6:** Results of correlations between variables.

Correlations

| | | log_liq | RoE | Cap | Currency outside to M3 | LF/DF | Inf | Unemployment | Remittances | Repo_Lek | Euribor_Euro | Libor_usd | Crisis |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| log_liq | Pearson Correlation | 1 | .261 | .230 | -.057 | -.046 | .180 | -.016 | .183 | .274 | .272 | .232 | .061 |
| RoE | Pearson Correlation | .261 | 1 | .700** | .476** | -.445** | .048 | -.014 | .676** | .692** | .832** | .606** | -.039 |
| Cap | Pearson Correlation | .230 | .700** | 1 | .461** | -.582** | -.400* | .328* | .331* | .553** | .502** | .432** | .021 |
| Currency outside to M3 | Pearson Correlation | -.057 | .476** | .461** | 1 | .222 | .039 | -.384* | .687** | .416** | .434** | .650** | .164 |
| LF/DF | Pearson Correlation | -.046 | -.445** | -.582** | .222 | 1 | .362* | -.648** | .099 | -.219 | -.176 | -.031 | .449** |
| Inflation | Pearson Correlation | .180 | .048 | -.400* | .039 | .362* | 1 | -.508** | .265 | .044 | .240 | -.087 | .148 |
| Unemployment | Pearson Correlation | -.016 | -.014 | .328* | -.384* | -.648** | -.508** | 1 | -.483** | .092 | -.190 | -.383* | -.388* |
| Remittances | Pearson Correlation | .183 | .676** | .331* | .687** | .099 | .265 | -.483** | 1 | .522** | .712** | .785** | .145 |
| Repo_Lek | Pearson Correlation | .274 | .692** | .553** | .416** | -.219 | .044 | .092 | .522** | 1 | .726** | .369* | .137 |
| Euribor_Euro | Pearson Correlation | .272 | .832** | .502** | .434** | -.176 | .240 | -.190 | .712** | .726** | 1 | .482** | .191 |
| Libor_usd | Pearson Correlation | .232 | .606** | .432** | .650** | -.031 | -.087 | -.383* | .785** | .369* | .482** | 1 | -.062 |
| Crisis | Pearson Correlation | .061 | -.039 | .021 | .164 | .449** | .148 | -.388* | .145 | .137 | .191 | -.062 | 1 |

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).